



Medicenna Presents Data on MDNA11, an IL-2 Superkine at ASCO 2020

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-MDNA11, a long acting IL-2 super-agonist shows potent and durable tumor control with strong memory response in tumor models-

-Up to 10-fold expansion of cancer-killing immune cells in non-human primates (NHP) without underlying safety issues or immunogenicity

TORONTO, May 29, 2020 /CNW/ - Medicenna Therapeutics Corp. ("Medicenna" or "the Company") (TSX: MDNA, OTCQB: MDNAF), a clinical stage immuno-oncology company, today announced virtual presentation of data on MDNA11, one of its lead candidates from the IL-2 Superkine program, at the 2020 American Society of Clinical Oncology (ASCO) Annual Meeting.

The poster presentation by Dr. Mouth Rafei, PhD, (Associate Professor of Pharmacology and Physiology at the University de Montreal) focuses on new data arising from MDNA11, Medicenna's novel long-acting interleukin-2 (IL-2) Superkine program.

"Recent transactions in the immuno-oncology and IL-2 space are evidence of the industry demand for drug candidates that can effectively boost the immune system of patients undergoing cancer treatment. The data we are sharing at ASCO show that MDNA11 has the potential to be a best-in-class IL-2 asset," says Dr. Fahar Merchant, Chief Executive Officer, Medicenna. "We are impressed by MDNA11's preclinical profile, including its selectivity for immune effector cells, pharmacokinetics, safety and preclinical efficacy. We look forward to progressing MDNA11 towards the clinic in the next 12 months and to share these data with the ASCO community."

The poster presentation focuses on encouraging data in NHP for MDNA11, a long-acting IL-2 variant engineered to have enhanced affinity to CD122 without interacting with CD25. This allows MDNA11 to specifically expand cancer fighting naïve CD8 T cells as well as natural killer (NK) cells with minimal stimulation of T regulatory cells (Tregs) and eosinophils (associated with vascular leak syndrome). As such, the use of MDNA11 circumvents both immune-suppression and toxicity normally observed with standard IL-2 (Proleukin). In addition, MDNA11 has several advantages over other long-acting IL-2 variants as it permits enhanced accumulation in the tumor vicinity and can be recycled in vivo thus exhibiting prolonged circulation in the blood stream thereby reducing the frequency of treatment.

Highlights from the presentation include:

- Half-life of MDNA11 (~7 hours) in mice is more than 20-fold longer than native IL-2 (~0.3 hr). The half-life of MDNA11 is 13-25 hours in NHP, comparable if not longer than other longacting IL-2 molecules in development. Due to its durable pharmacodynamic (PD) effects that last up to 10 days, it circumvents the need for frequent dosing to achieve therapeutic efficacy.
- In a pre-clinical tumor re-challenge study in a CT-26 mouse colon cancer model, two doses of MDNA11 over 2 weeks resulted in durable and complete responses in 60% of the mice when treated alone and 100% complete response when combined with an anti-CTLA4 antibody. These responses were durable, lasting over 210 days (7 months) despite multiple re-challenges with no additional treatment demonstrating sustained vaccine-like resistance. These results suggest that MDNA11 provides a complementary mechanism of immune activation when used alone or in combination with immune checkpoint inhibitors.
- Kinetic studies in NHP showed a dose-dependent upregulation of Ki67 in CD8 T-cells lasting for almost two weeks post-MDNA11 administration, significantly longer than pegylated IL-2, and indicative of a prolonged PD effect.
- When administered to NHP, MDNA11 demonstrated a dose dependent increase in absolute number of circulating CD8 T-cells, non-Treg CD4 T-cells and NK cells with minimal effect on Treg).
- In spite of inducing a durable immune response, MDNA11 does not trigger cytokine storm nor cause other undesirable immune related side effects. These pre-clinical safety studies showed that MDNA11 did not lead to hypotension or vascular leak syndrome.
- Additional safety features of MDNA11 include lack of immunogenicity (no anti-drug-antibody response), no change in liver and kidney function and no pulmonary edema as confirmed by histopathology.

About Medicenna Therapeutics Corp.

Medicenna is a clinical stage immunotherapy company focused on the development of novel, highly selective versions of IL-2, IL-4 and IL-13 Superkines and first in class Empowered Cytokines™ (ECs) for the treatment of a broad range of cancers. Medicenna's lead IL4-EC, MDNA55, has completed a Phase 2b clinical trial for rGBM, the most common and uniformly fatal form of brain cancer. MDNA55 has been studied in five clinical trials involving 132 patients, including 112 adults with rGBM. MDNA55 has demonstrated compelling efficacy and has obtained Fast-Track and Orphan Drug status from the FDA and FDA/EMA respectively. Medicenna's long-acting IL2 Superkine assets, MDNA19 and MDNA11, are best-in-class nextgeneration IL-2's in development with superior CD122 binding without CD25 affinity and therefore preferentially stimulating cancer killing effector T cells and NK cells when compared to competing IL-2 programs. It is anticipated that MDNA19 or MDNA11 will be ready for the clinic in 2021. For more information, please visit www.medicenna.com.

This news release contains forward-looking statements relating to the future operations of the Company and other statements that are not historical facts. Forward-looking statements are often identified by terms such as "will", "may", "should", "anticipate", "expects", "believes" and similar expressions. All statements other than statements of historical fact, included in this release, including, without limitation, statements related to that

MDNA11 has the potential to be a best-in-class IL-2 asset, that the Company will progress MDNA11 towards the clinic in the next 12 months and the future plans and objectives of the Company, are forward-looking statements that involve risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Important factors that could cause actual results to differ materially from the Company's expectations include the risks detailed in the annual information form of the Company dated May 14, 2020 and in other filings made by the Company with the applicable securities regulators from time to time.

The reader is cautioned that assumptions used in the preparation of any forward-looking information may prove to be incorrect and that study results could change over time as the study is continuing to follow up all patients and new data are continually being received which could materially change study results. Events or circumstances may cause actual results to differ materially from those predicted, as a result of numerous known and unknown risks, uncertainties, and other factors, many of which are beyond the control of the Company. The reader is cautioned not to place undue reliance on any forward-looking information. Such information, although considered reasonable by management at the time of preparation, may prove to be incorrect and actual results may differ materially from those anticipated. Forward-looking statements contained in this news release are expressly qualified by this cautionary statement. The forward-looking statements contained in this news release are made as of the date of this news release and the Company will update or revise publicly any of the included forward-looking statements only as expressly required by Canadian securities law.

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